

Ftlrs : Past and currents missions, upgrade for future

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Abstract

This paper describes recent campaigns as well technological upgrades for future projects.

- *Tasmania campaign (November 2007-April 2008) in collaboration with Australian colleagues*

- *Corsica campaign for Jason1/Jason2 Calval activities to inter-calibrate radar altimeters on the spacecrafts*

- *Recent installation of Dassaut Event Timers on mobile system to add the capability of accurate time stamp at the picosecond level.*

FTLRS recent missions:

- 1. Calibration/validation project on Jason1 satellite in Tasmania, a collaboration between University of Tasmania at Hobart and Observatoire de la Côte d'Azur in France**

Burnie is the only calibration site in the southern hemisphere for Jason1

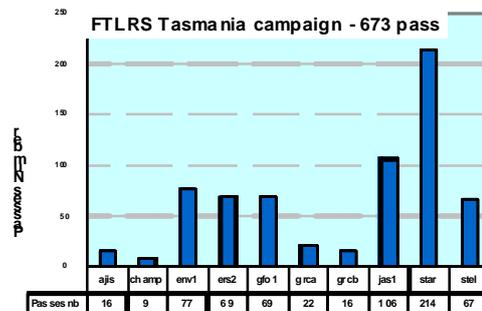
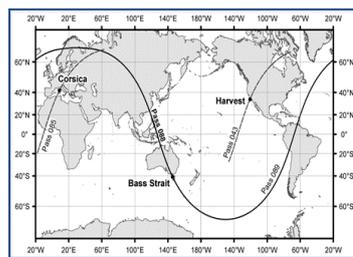
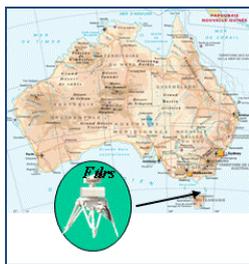


Figure 1. Burnie (Tasmania) , calibration site for Jason1 in south hemisphere

As shown on

, Burnie is very close under the trace of Jason1 (like Ajaccio in Corsica). This cooperation was 5 months (2007/2008) in Burnie for permanent observations on site;

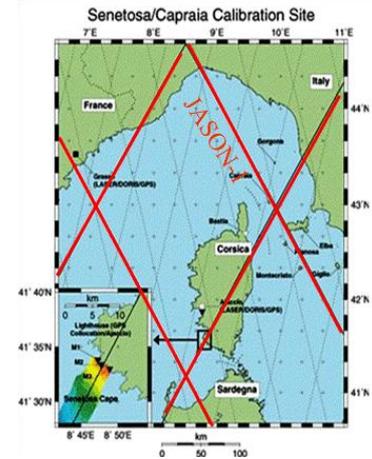
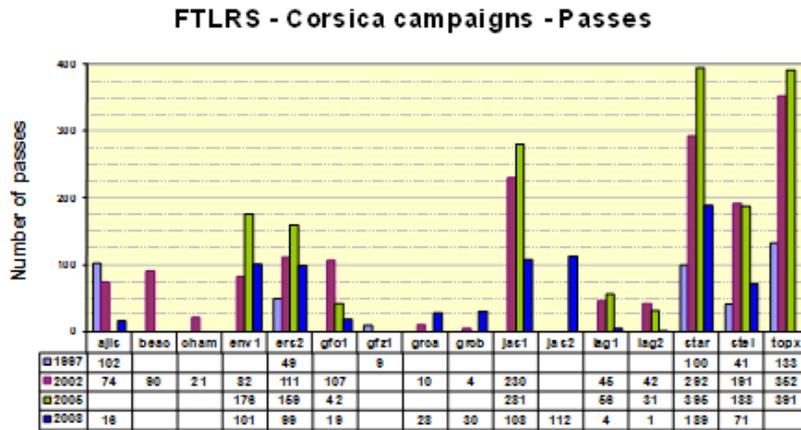
Sciences, research project were established by both institutes.

- *OCA contribution: Technological issue for Ftlrs and engineers*

- *Australian contribution: Site installation and missions funding*

Results: about 10.000 NPs, more than 650 passes, including 106 for Jason1

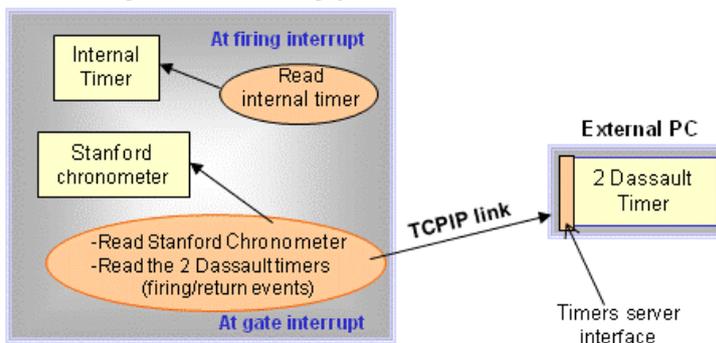
2. Corsica campaigns for Topex, Jason1/Jason2 calibration/validation



Installation of Dassault Event Timers:

Dassault Event Timers were installed in spring 2008 on mobile system, to add the capability of accurate time stamp at the picosecond level. This very important upgrade has been achieved to imply Ftlrs in Time Transfer experiment on T2L2/Jason2 with a very quick identification of triplets by the Grasse Center in July 2008, some days after the launch of Jason2.

Real Time System: chronometry part



Our choice has been to conserve the 2 timing systems very useful for engineering and failure:

- internal timer and Stanford chronometer
- Two Dassault timers (start and stop channels)

Now we have no more linearity problems, ground target is at 20 ps Rms; the resolution and chronometry noise are at some ps level; ftlrs has now a better accuracy on every targets.

First T2L2 results:

These data on Jason2 are from FtIrs at Grasse and at Ajaccio, and from MEO at Grasse in July 2008, just some days after launch

